JIM for CDF

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CDF GRID workshop

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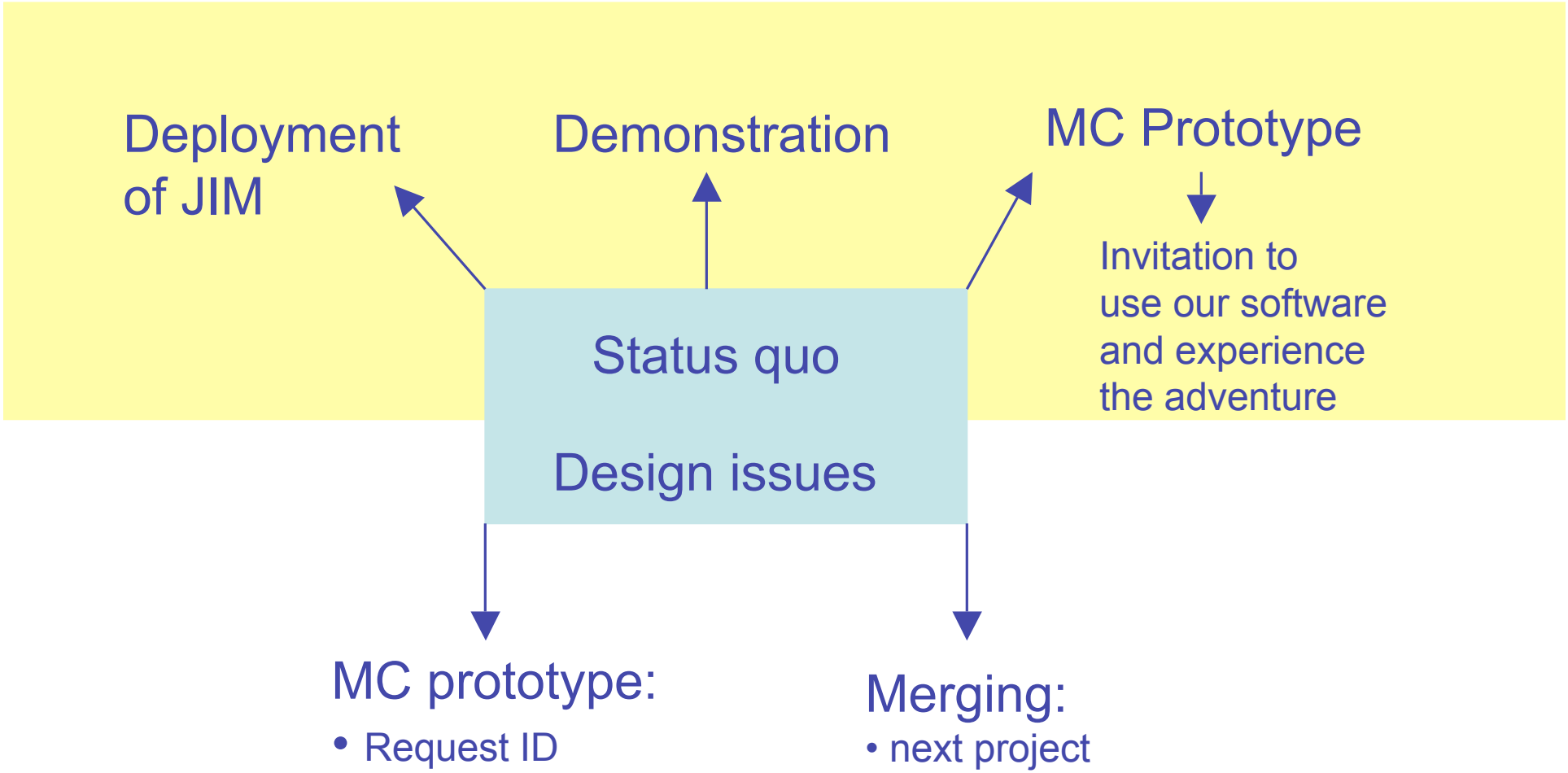
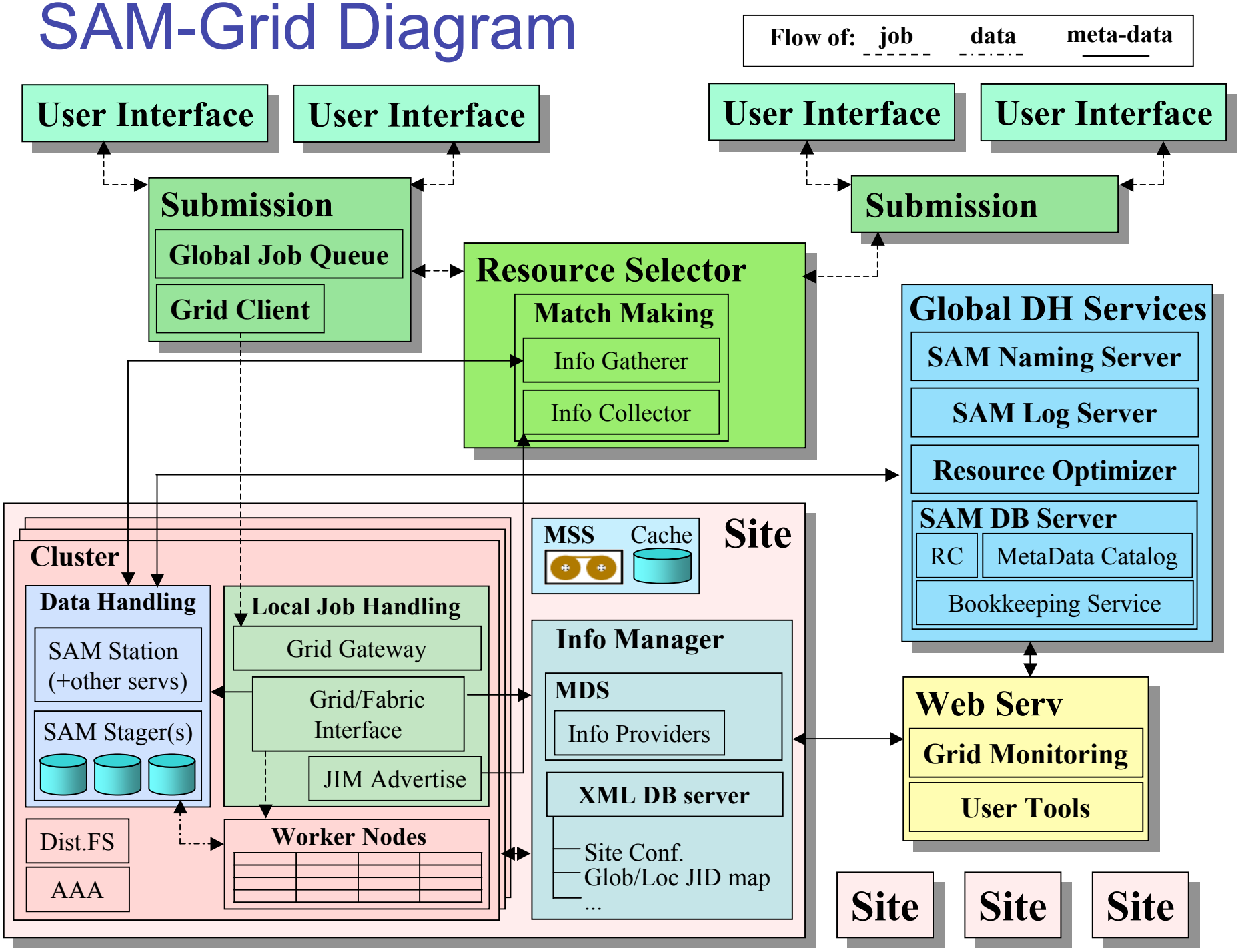
Storyboard for the presentation



Plan

- We want to provide a mechanism to produce MC for CDF via SAM-Grid. The infrastructure will be the same as DZero's.
- A prototypical installation of JIM for CDF MC is being beta-tested now
- At this time, we would like users to comment on our processing model (details later).
- After the feedback from the users is integrated, we will ask that a few users try to use it
- If CDF finds it useful, we will work on a deployment plan

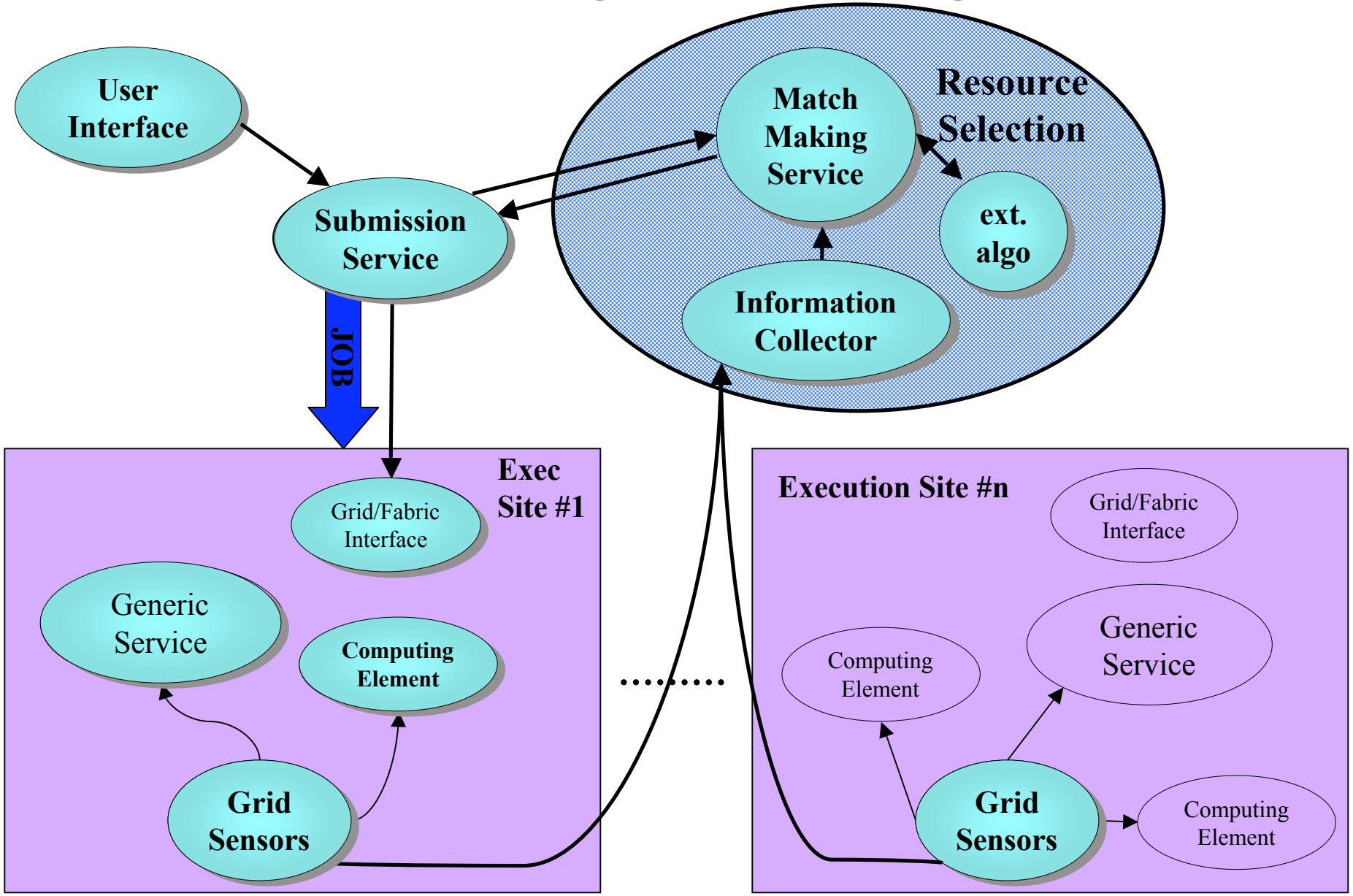
SAM-Grid Diagram



Status quo: deployment for JIM

	execution site	submission site	client site
description	execution of a job	queue grid jobs	submission of a job
# needed	at every cluster	a few at regional centers	wherever needed by user
installation method	samgrid	samgrid	init_jim_client
installed sites	FNAL, Glasgow, Oxford	Oxford	various sites

Job Management Diagram



MC Prototype: Facts

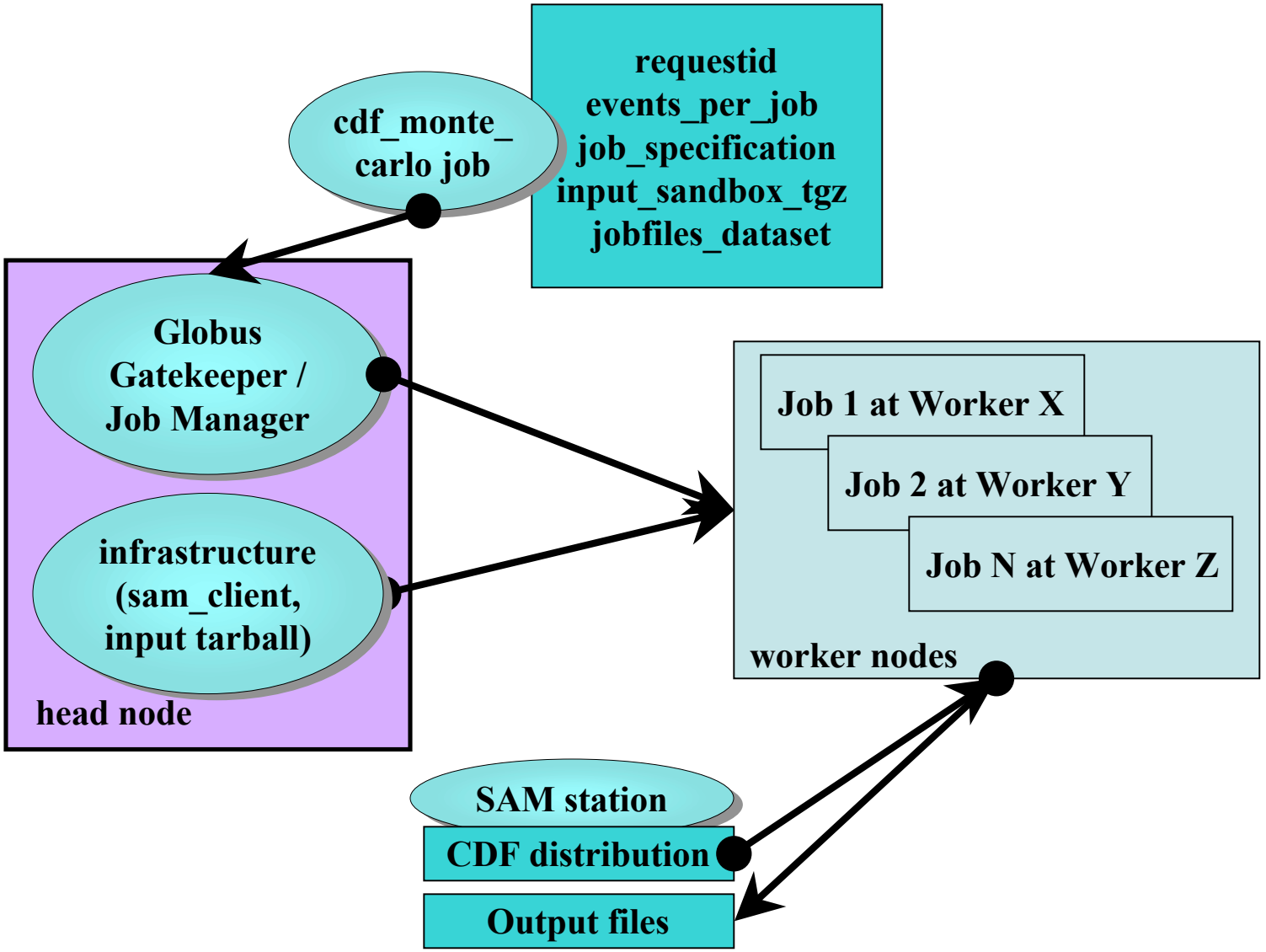
- lightweight for the user
- not imposing specific environment at execution site

⇒ flexible, but needs careful configuration at execution site

- application not grid-enabled
- have to provide manager for different categories of jobs (like MC, reprocessing, merging, analysis)

⇒ for CDF at the moment: cdf_monte_carlo

How JIM works at an execution site



Processing Model (please comment)

MC:
Need to have requestId which is connected to a dataset with metadata

Input:
- Sandbox with the files needed for MC generation:
  - XML file with list of runs and luminosities
  - Simulation file
  - Trigger simulation file

- JDL (job description language) file which specifies the jobtype, so that the Correct wrappers are called, number of events to be executed, ….

Outlook

What we need:

- test user for MC prototype
- if people like: execution sites

Possible future:

- JIM is compatible with GRID3/LCG/DCAF clusters (but not with LCG resources broker)

Status quo: MC Prototype

Links:

my homepage = CDF JIM homepage
http://home.fnal.gov/~bartsch/jim.html

Official JIM homepage
http://www-d0.fnal.gov/computing/grid/

JIM monitoring
http://samgrid.fnal.gov:8080/

JIM client code browser
http://www-d0.fnal.gov/computing/grid/products/jim_client/demo_examples/

Backup transparencies

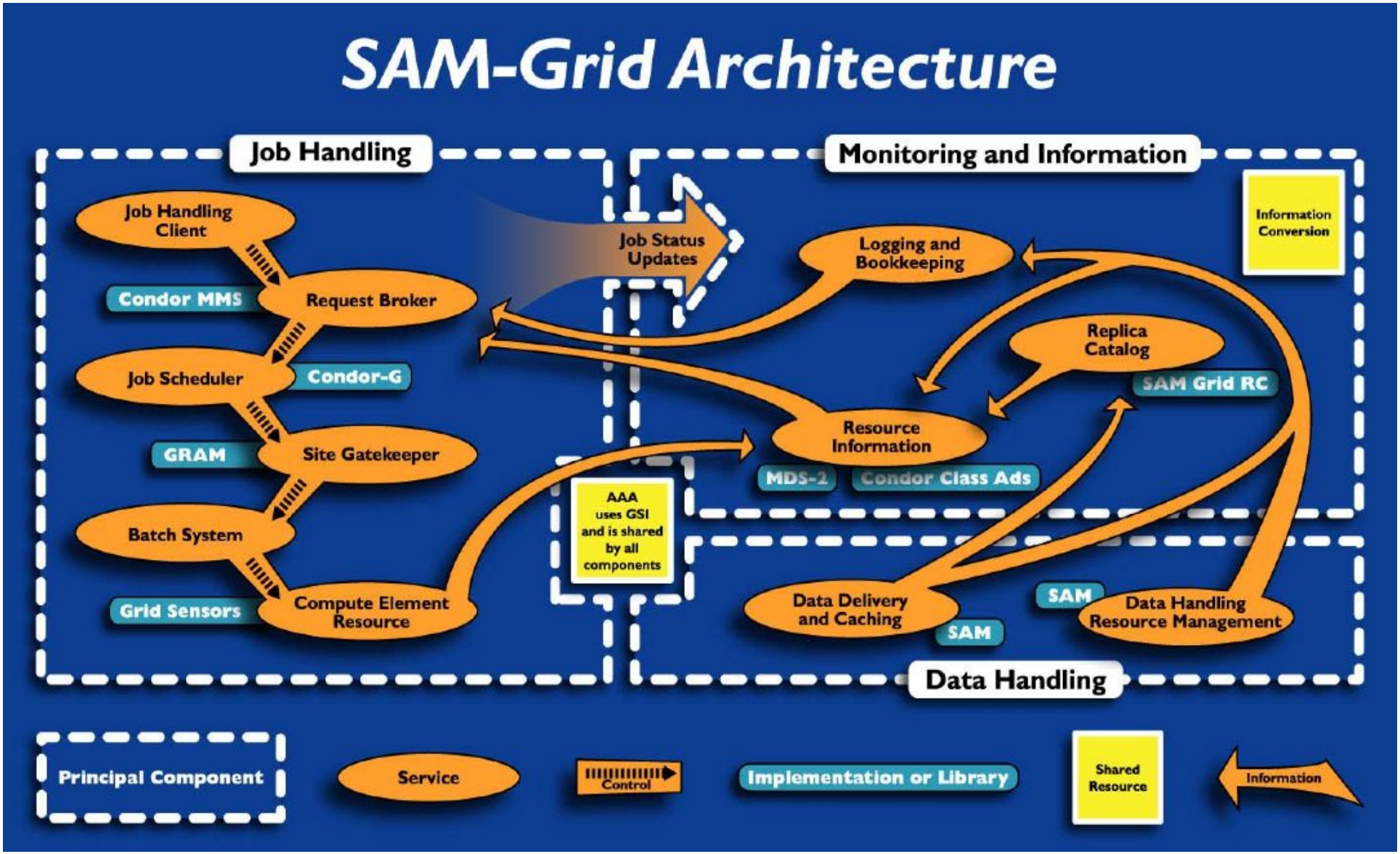
Status quo: deployment for JIM

	execution site	submission site	client site
description	execution of a job	delegation of a job to an execution site	submission of a job
requirements	•stability •no restrictions on the batch queues •root access for user gridmapfile •domain name •~1.5Gb for installation •ports in firewall open	•even more stability, otherwise bottleneck •root access for user gridmapfile •~1.5Gb for installation •ports in firewall open	• none, lightweighted component

Status quo: deployment for JIM

	execution site	submission site	client site
description	execution of a job	delegation of a job to an execution site	submission of a job
issues related with the installation	•authentification and permissions •sam_batch_adapter hard to install	•authentification and permissions	•needs to be user-friendly

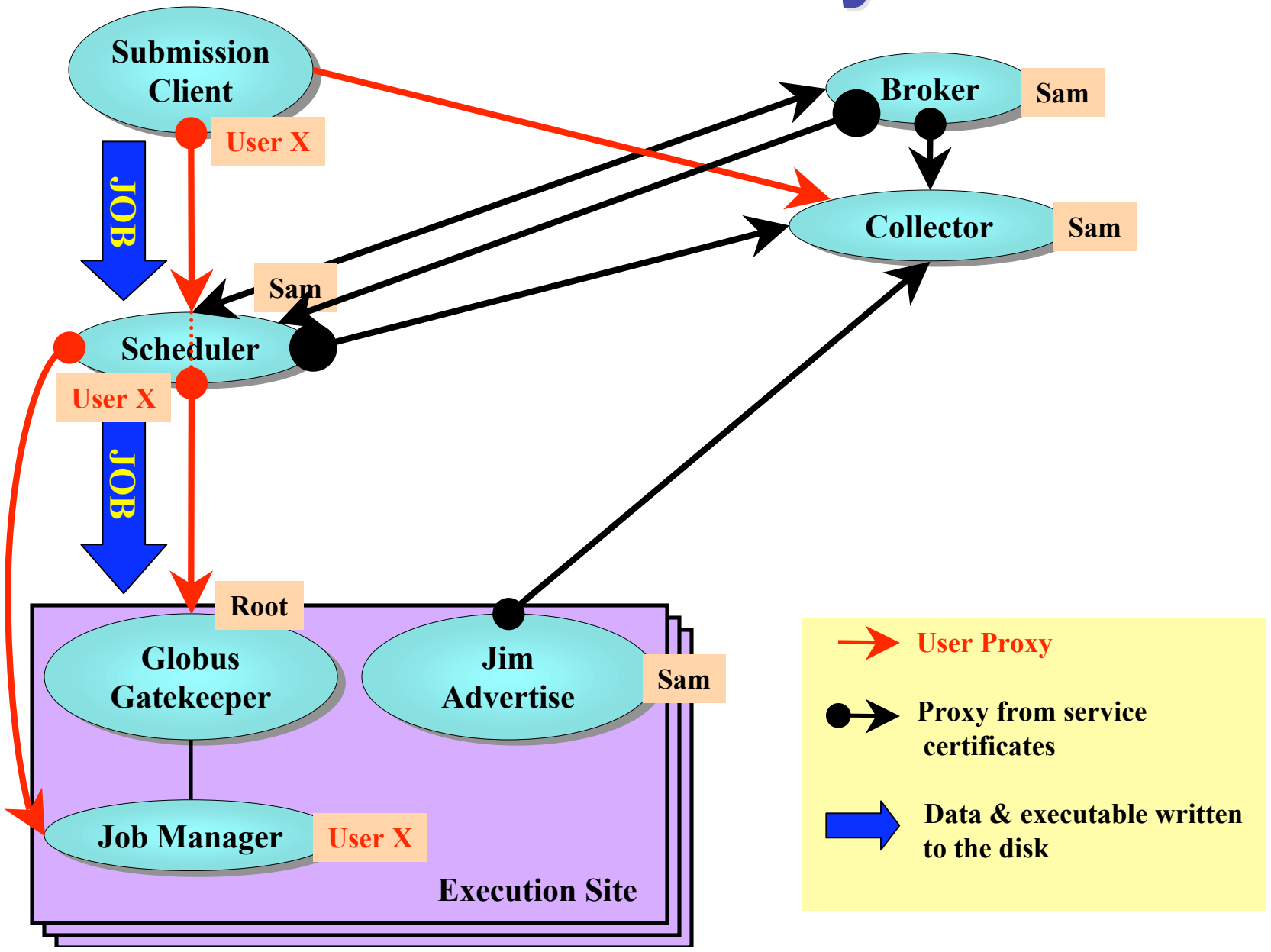
Status quo: deployment for JIM



Status quo: deployment for JIM

Element from last slide	Flavor of installation	List of products needed
Job handling client	client site	jim-client
Request Broker	submission site	jim_broker_client www_jim_sandbox
Job Scheduler	submission site	jim_broker_server
Site Gatekeeper	execution site	
Batch System	handled at execution site	sam_batch_adapter
Compute Element Ressource	imports needed software	jim_jobmanager jim_sandbox

JIM Job Security



Status quo: MC Prototype

Philosophy:
- get jobs to the batch system
- take care of the execution of the job

⇒develop wrappers for each job type

available job types:

dzero_monte_carlo	dzero_reconstruction
cdf_monte_carlo	sam_analysis
dzero_merge	dzero_reco_merge

⇒user has to work within the limits of the allowed limits
⇒ software has to take care that it is flexible enough

⇒user feedback important